acute kidney injury in the setting of preexisting chronic kidney disease.

1. Agarwal R, Rizkala AR, Kaskas MO *et al.* Iron sucrose causes greater proteinuria than ferric gluconate in non-dialysis chronic kidney disease. *Kidney Int* 2007; **72**: 638–642.
2. Zager RA, Johnson AC, Hanson SY. Parenteral iron nephrotoxicity: potential mechanisms and consequences. *Kidney Int* 2004; **66**: 144–156.

BL Jaber[1]
[1]*Department of Medicine, Caritas St Elizabeth's Medical Center, Boston, Massachusetts, USA*
Correspondence: *BL Jaber, Department of Medicine, Caritas St Elizabeth's Medical Center, Boston, Massachusetts 2135, USA.*
E-mail: bertrand.jaber@caritaschristi.org

Response to 'Bertram Jaber's letter to the editor'

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We did not collect post-infusion serum creatinine, so we are unable to comment on the occurrence of acute renal failure. The time frame of the study is simply too short to detect progression of renal injury. The benefits and risks of iron use in nephrology need to be clarified further. A larger, NIH-funded, randomized trial is under way to examine the effects of iron administration in patients with chronic kidney disease on GFR (glomerular filtration rate) slopes.

R Agarwal[1]
[1]*Department of Medicine, Indiana University School of Medicine, Indianapolis, Indiana, USA*
Correspondence: *R Agarwal, Department of Medicine, Indiana University School of Medicine, 1481 West 10th St, Indianapolis, Indiana 46033, USA.*
E-mail: ragarwal@iupui.edu

Gabapentin as a therapeutic option in uremic pruritus

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To the Editor: We read with interest the 'Renal consult' on uremic pruritus by Keithi-Reddy *et al.*,[1] but we believe that a major point regarding this topic has not been considered by the authors. An emerging and intriguing pathogenetic hypothesis on pruritus suggests that it can be due to peripheral nerve fiber damage associated with a central sensitization, leading to a diminished threshold of perception of itch. This hypothesis is similar to that proposed for neuropathic pain, in which nerve fiber damage and central 'windup' phenomenon are thought to be major pathomechanisms. Ongoing studies are now trying to clarify the neurophysiologic pathways shared by itch and neuropathic pain. Gabapentin, a medication widely used for a spectrum of neuropathic pain syndromes, has recently been added to the therapeutic armamentarium of uremic pruritus. Our experience[2] and other published randomized trials[3,4] have demonstrated that gabapentin can be effective and safe for uremic pruritus, and that it also ameliorates neuropathic symptoms (that is, restless leg syndrome, diabetic neuropathy, and insomnia) that often affect hemodialysis patients' quality of life. On the basis of these considerations, we believe that Keithi-Reddy *et al.* should have discussed this point and included gabapentin among the therapeutic options for uremic itch.

1. Keithi-Reddy SR, Patel TV, Armstrong AW *et al.* Uremic pruritus. *Kidney Int* 2007; **72**: 373–377.
2. Manenti L, Vaglio A, Costantino E *et al.* Gabapentin in the treatment of uremic itch: an index case and a pilot evaluation. *J Nephrol* 2005; **18**: 86–91.
3. Gunal AI, Ozalp G, Yoldas TK *et al.* Gabapentin therapy for pruritus in haemodialysis patients: a randomized, placebo-controlled, double-blind trial. *Nephrol Dial Transplant* 2004; **19**: 3137–3139.
4. Naini AE, Harandi AA, Khanbabapour S *et al.* Gabapentin: a promising drug for the treatment of uremic pruritus. *Saudi J Kidney Dis Transpl* 2007; **18**: 378–381.

L Manenti[1], A Vaglio[2] and PP Borgatti[1]
[1]*Department of Nephrology, ASMN Reggio Emilia, Reggio Emilia, Italy and* [2]*Department of Clinical Medicine, Nephrology and Health Science, University of Parma, Parma, Italy*
Correspondence: *L Manenti, Department of Nephrology, ASMN Reggio Emilia, Viale Risorgimento 80, Reggio Emilia 42100, Italy.*
E-mail: lucio.manenti@asmn.re.it

Response to 'Gabapentin as a therapeutic option in uremic pruritus'

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In response to our article,[1] Manenti *et al.*[2] suggest a role for gabapentin in the management of uremic pruritus. They make a similar point in a recent article.[3] Gabapentin is structurally related to γ-amino butyric acid (GABA). However, gabapentin does not bind to $GABA_A$ or $GABA_B$ receptors, and does not appear to influence synthesis or uptake of GABA. High-affinity gabapentin-binding sites have been located throughout the brain and correspond to the presence of presynaptically located voltage-gated calcium channels. This channel appears to modulate the release of excitatory neurotransmitters that participate in epileptogenesis and pain sensation. Hence, gabapentin has been used for the treatment of neuropathic pain. However, its role in uremic pruritus is not well established. In a randomized controlled crossover trial, Gunal *et al.*[4] evaluated the effect of gabapentin (300 mg given thrice weekly after dialysis) versus placebo in treating 25 hemodialysis patients for pruritus. Gabapentin lowered the mean pruritus score (from 8.4 to 1.2 for gabapentin versus 8.4 to 7.6 with placebo-treated patients). However, this study had several limitations, including a small sample size, limited information on demographics of the study population, subjective evaluation of itching, only

once-daily assessment of itching, the use of a high dose of gabapentin, and the absence of between-group comparisons. In a more recent trial, Naini *et al*.[5] studied 34 patients in a randomized placebo-controlled trial and using a high dose of gabapentin (400 mg thrice weekly post dialysis) reported efficacy for gabapentin over placebo. This study also had several limitations. Further, as Manenti and Vaglio have previously pointed out,[6] the high dose of gabapentin used in these trials could lead to sedation and neurotoxicity in dialysis patients. They advocate a modest initial starting dose of gabapentin (that is, 100 mg given thrice weekly after dialysis) and careful nursing surveillance when administering gabapentin. This lower dose, as far as we are aware, has only been tested in a pilot (nonrandomized controlled) study.[7] Thus, while we agree that gabapentin could represent a potential therapeutic option, in our own practice, we do not currently use this agent for the treatment of uremic pruritus.

1. Keithi-Reddy SR, Patel TV, Armstrong AW, Singh AK. Uremic pruritus. *Kidney Int* 2007; **72**: 373–377.
2. Manenti L *et al*. Gabapentin as a therapeutic option in uremic pruritus. *Kidney Int* 2008; **73**: 512.
3. Manenti L, Vaglio A. Gabapentin use in chronic uraemic itch is in line with emerging pathogenetic hypothesis. *Nephrol Dial Transplant* 2007; **22**: 3669–3670.
4. Gunal AI, Ozalp G, Yoldas TK *et al*. Gabapentin therapy for pruritus in haemodialysis patients: a randomized, placebo-controlled, double-blind trial. *Nephrol Dial Transplant* 2004; **19**: 3137–3139.
5. Naini AE, Harandi AA, Khanbabapour S *et al*. Gabapentin: a promising drug for the treatment of uremic pruritus. *Saudi J Kidney Dis Transpl* 2007; **18**: 378–381.
6. Manenti L, Vaglio A. Gabapentin for uraemic pruritus. *Nephrol Dial Transplant* 2005; **20**: 1278–1279.
7. Manenti L, Vaglio A, Costantino E *et al*. Gabapentin in the treatment of uremic itch: an index case and a pilot evaluation. *J Nephrol* 2005; **18**: 86–91.

SR Keithi-Reddy[1] and AK Singh[1]

[1]*Renal Division, Brigham and Women's hospital, Harvard Medical School, Boston, Massachusetts, USA*

Correspondence: *AK Singh, Renal Division, Brigham and Women's hospital, Harvard Medical School, Boston, Massachusetts, USA.*
E-mail: ksairamreddy@hotmail.com